Customer No. 24498
Atty Docket No. PU020013 US
Office Action Date: January 9, 2008

REMARKS

The Non Final Office Action mailed January 9, 2008 has been reviewed and carefully considered. The Examiner's reconsideration is respectfully requested in view of the above amendments and the following remarks.

Claims 1-4, 7-9, 11-13 and 16-18 are pending in the present application. Claims 1-2, 8-9, 11-12 and 16-18 have been amended. Claims 5-6, 10, 14-15 and 19 have been cancelled without prejudice. No new matter has been added.

§103 REJECTIONS

By the Office Action, claims 1-4, 7-13 and 16-19 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,745,696 to Mendelson et al. (hereinafter Mendelson) in view of U.S. Pub. No. 2004/0071101 to Lu et al. (hereinafter Lu).

Applicant respectfully disagrees with the rejection.

Claims 1 and 11 have been amended to recite, *inter alia*, that the 'data stream' comprises a 'content data stream'. This amendment is supported by the specification e.g., on page 2, lines 15-23; page 3, lines 30-33; and page 6, line 33 to page 7, line 4. In addition, the claims have been amended to clarify that the 'customer premises unit' comprises a 'customer premises equipment (CPE) unit' as supported throughout the specification ('CPE 2') and item 2 of FIG. 1. Further, claims 1 and 11 have been amended to recite, *inter alia*, "wherein the customer premise equipment unit is configured to deliver the content data stream at a rate less than a normal rate when the physical layer is lost, and the network control system is configured for increasing the data

rate of the content data stream to the customer premise equipment unit from the server for a period of time when the physical layer is restored." This amendment was made by incorporating the content of claims 10 and 19 into their respective independent claims.

Applicant acknowledges with appreciation the Examiner's Response to RCE in paragraph (1) of the Office Action. Responsive to the Examiner's request for the Applicant to present claims and drawings that delineate the contours of the present invention in view of the cited art, it is respectfully asserted that at least claims 1 and 11, which now recite *inter alia*: "wherein the customer premise unit is configured to deliver the content data stream at a rate less than a normal rate when the physical layer is lost, and the network control system is configured for increasing the data rate of the content data stream to the customer premise unit from the server for a period of time when the physical layer is restored" and FIG. 2 (namely, steps 204, 208, 209, 210) represent the main elements which are distinct from and not disclosed in the cited art.

Applicant notes the Examiner's assertion on page 3 of the Office Action that claim 1, line 10 of the present invention reciting "data rate of a steady data stream" is not different than the constant data stream disclosed by Mendelson. However, Applicant has carefully reviewed the cited Col. 1, lines 55-65 of Mendelson and respectfully points out, a marked difference, which, especially in view of the above clarifying amendments made to the claims, establishes a clear distinction between the present invention and Mendelson. Namely, Mendelson recites "[G]reat care must be taken in delivering the **transport stream** to the **customer premises equipment** at a rate which remains relatively constant with respect to the program's real time." Mendelson thus emphasizes (most notably in this cited portion) delivering a transport stream from a server to a CPE at

a constant rate. If any fluctuation should occur in the stream rate delivery relative to the real time of the program, this would result in the highly undesirable situation called "wander."

In complete contrast, the present invention seeks to control (i.e., increase to greater than normal rate, or decrease back to a normal rate) a **rate** of a content data stream from a **server to a *CPE unit*** in accordance with loss/restoration of a physical layer between the server and the CPE. This is in fact clearly recited in claims 1 and 11, to wit: "the network control system is configured for **increasing the data rate** of the content data stream **to the customer premise equipment unit** from the **server** for a period of time when the physical layer is restored..."

To clear up any confusion, the portion of claim 1 (line 10) of the present invention which was cited by the Examiner, i.e., "data rate of a steady data stream" was referring to ensuring maintenance of a steady data stream ***from the CPE unit to the customer.*** However, ensuring a steady data stream from the CPE unit to the customer (e.g., the set top box or decoder) as in the present invention, is NOT to be confused with Mendelson's discussion of the desirability of delivering at a relatively constant rate a transport stream from a *server* 110 *to a CPE* 122. Hence, it is clearly and readily apparent that Mendelson indeed does teach away from the present invention.

Mendelson discusses formatting the data of the TS packets 210 into the cells 300 so that server and network resources are minimized, and transporting the cells 300 to the CPE 122 with a minimum amount of jitter and wander. As previously discussed, PCRs may be transported in various TS packets 210. For example, FIG. 4 shows wherein only the second TS packet 212 transports a PCR 220. However, a first TS packet 211 may

include a PCR. In such case, if the first TS packet 211 were to be transported as part of an eight cell PDU (protocol data unit), the CPE 122 cannot decode the first TS packet 211 until after the second TS packet 212 was received. This may cause jitter in the reconstructed program. Thus, in order to handle all cases of PCR distribution in the packets 210, the transport controller 700 in Mendelson conditions the timed program data independent of the transport rate to minimize wander and jitter.

FIG. 3 depicts an ATM transport cell used to transport a transport stream 200 from the "source" server 110 to the "destination" CPE 122. The problem of transporting cells 300 to the CPE 122 with a minimum amount of jitter and wander is discussed (see Col. 5, lines 26-29.)

FIG. 6 explains the conditioning of the timed program data. One implementation conditioning the transport stream uses a transport controller 700. However, the "controller 700" in Mendelson is not to be confused with the "network control system" of the present invention. Namely, according to one of Mendelson's principles, while transporting portions of the transport stream 200 which consume less than the available transport bandwidth, the virtual transports "idle" cells. It is the idle or "null" cells that ensure that constant bit rate transport is maintained. *See* Col. 6, lines 63-67 which recite:

> "[A]ccording to the principles of the invention, while transporting portions of the transport stream 200 which consume less than the available transport bandwidth, e.g., the shaded area 640, the virtual transports "idle" cells. The idle or "null" cells ensure that constant bit rate transport is maintained."

Again, in Mendelson, the maintenance of a **constant** transport rate of cells (comprising program data) from a server to the CPE is disclosed and emphasized. Mendelson is completely silent with respect to any change in data rate between a server

and a CPE. Indeed, Mendelson fails to disclose or suggest at least a network control system configured for *increasing* the data rate of the data stream to the customer premise unit from the server for a period of time when the physical layer is restored, essentially as claimed in claims 1 and 11. Thus, unlike Mendelson which maintains a constant data rate between the server and CPE, according to one inventive aspect of the present invention, the data rate of a data stream between the server and CPE may actually be altered (e.g., increased to greater than a normal rate, or decreased back to the normal rate) in response to the loss and subsequent restoration of a physical layer between the CPE and the server.

Furthermore, as previously asserted by the Applicant and as now acknowledged by the Examiner on page 3 of the Office Action, Mendelson is completely silent with respect to **losing or restoring** a physical layer and, thus, it logically follows that Mendelson can make no disclosure or mention of increasing the data rate of a data stream from the server to a CPE for a period of time when the physical layer is restored. Applicant notes the Examiner's argument that Lu teaches in detail this limitation and respectfully disagrees.

It is respectfully submitted that Lu fails to cure the deficiencies of Mendelson. In Lu, there is no change in a data stream rate due to a loss of a physical layer. First, Lu refers to a system having a first modem communicating to a second modem according to a line connection. Lu's main objective is to provide a DSL system which improves compatibility with existing PC and operating environments and avoids complexity. *See* paragraph [0010].

Paragraph [0067] describes what happens when a 'physical layer is restored to

this level of communication.' This must be read in context to preceding paragraphs [0066], [0033] and [0034] to be correctly understood. Namely, what Lu is describing is that when ONLY a physical layer is connected (e.g., and a link layer is not), there is then communication of filler data between the provisioned modems. Layered communications as typically understood in the art involve wherein there may be a connection or disconnection at the physical layer, and there may be a connection or disconnection at the link layer. The physical layer is disconnected when there is some type of discontinuity (i.e., open circuit) in a path between two modems, or when two peers are not synchronized. In paragraph [0034], Lu goes on to state: "[A]dditionally, DSL communications are synchronous communications; thus, once the physical layer is connected, under the preferred embodiment there is then communication of **mere filler data (as opposed to DSL user data or DSL system data)** between modems M_{14} and M_{12} so as to maintain tiling."

In paragraph [0067], Lu states: "[I]n this regard, note that two alternative embodiments are further contemplated. In a first embodiment, the filler data will continue to communicate at the same rate as already established for the line. In a second embodiment, however, the rate of communication for the filler data is **reduced**, thereby potentially lessening the burden on the DSPs of each of modems M_{12} and M_{14} for providing such data between one another." [*emphasis added*].

Please note there are at least three significant differences between Lu and the present invention:

1) Lu makes no mention of any change in data rate of a **content** data stream in response to a LOSS of a physical layer, rather, it is simply described that when a physical

layer connection is established, filler data is communicated between modems;

2) the 'filler' data disclosed in Lu is nonanalogous to the **content** data of the present invention. This appears to be indeed affirmed to by Lu in paragraph [0034], which describes the 'mere filler data (as opposed to DSL user data or DSL system data)';

3) even assuming, *arguendo*, that in Lu there is a loss and restoration of a physical layer, a change in data rate in response to same, and/or that its 'filler' data might plausibly be equivalent to the 'content' data of the present invention, Lu teaches that once the 'physical layer is restored to this level of communication' (i.e., once ONLY a physical layer is connected), the rate of communication may, in a second embodiment, be **reduced**. *See* paragraph [0067]. However, this in fact, teaches away from and is wholly opposite to the present invention, which clearly recites wherein a data rate of a content data stream from the server to the customer premise unit is **increased** when the physical layer is restored. This is essentially recited in present claims 1 and 11.

Accordingly, neither Mendelson and/or Lu disclose or suggest at least a means for controlling a data rate of the content data stream between the server and the buffer to ensure maintenance of a steady content data stream from the customer premise equipment unit to the customer during a loss of a physical layer between the server and the customer premise equipment unit, the means for controlling including a network control system coupled to the server and the customer premise equipment unit, wherein the customer premise equipment unit is configured to deliver the content data stream at a rate less than a normal rate when the physical layer is lost, and the network control system is configured for increasing the data rate of the content data stream to the customer premise equipment unit from the server for a period of time when the physical layer is restored,

essentially as claimed in claims 1 and 11.

At least in light of the above arguments, it is respectfully asserted that at least claims 1 and 11 are allowable over Mendelson in view of Lu. Claims 2-4, 7-9 and 12-13, 16-18 depend either directly or indirectly on claims 1 and 11, respectively. Claims 5-6, 10, 14-15 and 19 have been cancelled without prejudice. As such, the Applicant respectfully submits that the dependent claims are patentable and nonobvious for at least the reasons given above for claims 1 and 11.

Accordingly, the Applicants respectfully request withdrawal of all the rejections under 35 U.S.C. §103(a), and allowance of pending claims 1-4, 7-9, 11-13 and 16-18 on the merits.

In view of the foregoing amendments and remarks, it is respectfully submitted that all the claims now pending in the application are in condition for allowance.

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CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that claims 1-4, 7-9, 11-13 and 16-18 are patentable and nonobvious over the cited references. Consequently, the Applicants respectfully request reconsideration and withdrawal of the rejections and allowance of the application. Such early and favorable action is earnestly solicited.

No fees are believed to be due at this time. The office is hereby authorized to charge any additional fees which may be required in connection with this amendment and to credit any overpayment to our Deposit Account No. 07-0832.

Respectfully submitted,

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